CLAIMS

What is claimed is:

1. A communications network comprising:

a circuit-switched network providing communications services to mobile terminals having service with said circuit-switched network;

a broadcast teleservice message center connected to said circuit-switched network to generate broadcast teleservice messages formatted according to a first messaging protocol for delivery to mobile terminals having service with said circuit-switched network;

a packet-switched network providing communication services to mobile terminals having service with said packet-switched network; and

an interworking function connecting said broadcast teleservice message center to said packet-switched network, said interworking function including a formatter to format broadcast teleservice messages according to said second messaging protocol for delivery over said packet-switched network to mobile terminals having service with said packet-switched network.

2. The communications network of claim 1 wherein said first messaging protocol is the Broadcast Air-Interface Transport Protocol and said second messaging protocol is the Multicast Service Access Protocol.

3. The communications network of claim 1 wherein said packet-switched network implements the General Packet Radio Service.

4. The communications network according to claim 3 wherein said packet-switched network comprises a point-to-multipoint service center providing point-to-multipoint services.

5. The communications network according to claim 4 wherein said interworking function interfaces with said point-to-multipoint service center over a first interface.

6. The communications network of claim 5 wherein said first interface is a Gm interface.

7. The communications network of claim 1 wherein said packet-switched network comprises a serving GPRS support node.

8. The communications network according to claim 7 wherein said interworking function connects to said serving GPRS support node via a second interface.

9. The communications network according to claim 8 wherein said second interface is a Gn interface.

10. A method for delivering broadcast teleservice messages to mobile terminals over a communications network comprising:

a generating a broadcast teleservice message formatted according to a first messaging protocol in a broadcast teleservice message center;

transmitting said broadcast teleservice message formatted according to said first messaging protocol over a circuit-switched network to one or more mobile terminals having service with said circuit-switched network;

formatting said broadcast teleservice message according to a second messaging protocol implemented by a packet-switched network;

transmitting said broadcast teleservice message formatted according to said second protocol from said broadcast teleservice message center to said packet-switched network; and

transmitting said broadcast teleservice message formatted according to said second protocol over said packet-switched network to one or more mobile terminals having service in said packet-switched network.

11. The method of claim 10 wherein transmitting said broadcast teleservice message formatted according to said second protocol from said broadcast teleservice message center to said packet-switched network comprises transmitting said broadcast teleservice message formatted according to said second messaging protocol to a point-to-multipoint service center in said packet-switched network.

12. The method of claim 10 further comprising sending a change notification message from said circuit-switched network to said mobile terminals, said change notification message indicating changes in a broadcast channel.

13. The method of claim 10 wherein transmitting said broadcast teleservice message formatted according to said second protocol from said broadcast teleservice message center to said packet-switched network comprises transmitting said broadcast teleservice message formatted according to said second messaging protocol to a serving GPRS support node in said packet-switched network over a second interface.

14. A method for delivering subchannel data transmitted over a circuit-switched network to a mobile terminal having service with a packet-switched network, said method comprising:

assigning a group identification number to a service provider for said circuit-switched network;

assigning a group identification number to sub-channels used by said service provider to transmit said sub-channel data;

transmitting said group identification numbers assigned to said sub-channels to mobile terminals registered with said packet-switched network in a first broadcast teleservice message having a group identification field and a data field, said group identification numbers assigned to said sub-channels being contained in said data field, and said group identification number for said corresponding service provider being contained in said group identification field; and

transmitting sub-channel data to mobile terminals registered in said packet-switched network in a second broadcast teleservice message having a group identification field and a data field, said group identification field containing a group identification for a selected sub-channel to identify the sub-channel and said data field containing said sub-channel data.

15. The method of claim 14 wherein said sub-channel data comprises an Intelligent Roaming Database download message.

16. An interworking function connecting a broadcast teleservice message center to a packet-switched network, said interworking comprising:

a first interface connecting said interworking function to said broadcast message center, wherein said interworking function receives broadcast teleservice messages formatted according to a first messaging protocol over said first interface;

a formatter to format said broadcast teleservice messages received over said first interface according to a second messaging protocol for delivery to mobile terminals having service with a packet-switched network; and

a second interface connecting said interworking function to said packet witched network, wherein said interworking function transmits said broadcast teleservice messages formatted according to said second messaging protocol to said packet switched network over said second interface.

17. The interworking function according to claim 16 wherein said first interface connects to a mobile switching center node in a circuit-switched network.

18. The interworking function according to claim 17 wherein said first interface is a Gm interface.

19. The interworking function according to claim 16 wherein said second interface connects to a serving GPRS support node in said packet-switched network.

20. The interworking function according to claim 19 wherein said second interface is a Gn interface.

21. A broadcast message center in a mobile communication network generating broadcast teleservice messages, said broadcast message center comprising:

a broadcast message application generating said broadcast teleservice messages;

a first interface connecting said broadcast message center to a circuit switched network, wherein said broadcast teleservice messages transmitted over said first interface are formatted according to a first messaging protocol;

an interworking function to format said broadcast teleservice messages transmitted over said first interface according to a second messaging protocol for delivery to mobile terminals having service with a packet-switched network; and

a second interface connecting said interworking function to said packet witched network, wherein said interworking function transmits said broadcast teleservice messages formatted according to said second messaging protocol to said packet switched network over said second interface.

22. The broadcast message center according to claim 21 wherein said second interface connects to a serving GPRS support node in said packet-switched network.

23. The broadcast message center according to claim 22 wherein said second interface is a Gn interface.